

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A network security testing apparatus comprising:

a first tester for testing for network security vulnerabilities of a network system under test that is adapted to communicably couple to a the network system under test, said first tester adapted to sequentially perform a plurality of sequential tests on the system under test to obtain network security vulnerability information;

wherein each of the plurality of sequential tests are adapted to return ~~system environment information~~ the network security vulnerability information regarding the network system under test, the network security vulnerability information provided by each of the plurality of sequential tests being more specific to the network system under test than the network security vulnerability information provided by a previous test;

wherein each of the plurality of sequential tests are more ~~specific~~ specifically configured to adapt to the security obstacles of the network system under test detected based on information gained from the previous test and obtain additional network security vulnerability information from the network system under test based on information gained from a previous test.

2. (Currently Amended) The network security testing apparatus of claim 1, wherein ~~the plurality of sequential test comprises at least three tests~~ each of the plurality of sequential tests are more specifically configured to adapt to system configuration of the network system under test based on the information gained from the previous test and obtain the additional network security vulnerability information from the network system under test.

3. (Canceled)

4. (Currently Amended) The network security testing apparatus of claim 3 1, wherein the ~~system environment information~~ network security vulnerability information includes information regarding network connectivity from the first tester to the network system under test.

5. (Canceled)

6. (Currently Amended) The network security testing apparatus of claim 3 1, wherein the ~~security obstacle~~ network security vulnerability information includes ~~session establishability~~ connection information relating to an IP address used in the previous ~~first~~ test.

7. (Currently Amended) The network security testing apparatus of claim 3 1, further comprising:

a second tester that is adapted to communicably couple ~~to a~~ to the network system under test;

wherein the previous test is executed by said first tester;

5 wherein determination of whether ~~the~~ a subsequent test is executed by said first tester or by said second tester is made based at least partially upon the ~~system environment information~~ network security vulnerability information obtained by the previous test in order to adapt to the security obstacles of the network under test.

8. (Currently Amended) The network security testing apparatus of claim 3 7, wherein the ~~second subsequent~~ test includes execution of a test tool selected from a plurality of test tools based at least partially upon the ~~system environment information~~ network security vulnerability information obtained by the previous test.

9. (Canceled)

10. (Previously Presented) The network security testing apparatus of Claim 1, wherein the plurality of tests continue until all relevant information about the system under test has been collected.

11. (Previously Presented) The network security testing apparatus of claim 7, wherein the subsequent test includes execution of a test tool selected from a plurality of test tools based at least partially upon the system environment information.

12. (Canceled)

13. (Currently Amended) A network security testing method comprising:

a) executing a first test by a first tester to test for network security vulnerabilities of a network system under test, wherein the first test is targeted at a network system under test, and wherein the first tester is communicably coupled to the network system under test;

b) receiving first information from the first test about the system under test, after executing the first test, the first information comprising network security vulnerability information;

c) executing a second test to test for the network vulnerabilities of the network system under test after said receiving first information, wherein the second test is more ~~specific~~ specifically configured to adapt to the security obstacles of the network system under test detected based on information gained from the first test and obtain second information from ~~to~~ the network system under test based on the first information, the second information comprising additional network security vulnerability information more specific to the network system under test than the first information;

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d) receiving the second information from the second test about the network system under test, after executing the second test;

e) repeating steps a)-d) a plurality of times until ~~all~~ relevant information about the system under test has been collected; and

5 f) wherein ~~the second~~ the network security vulnerability information obtained from each subsequent test is more specific to the system under test based on ~~the first~~ the network security vulnerability information provided by each previous test.

14. (Original) The network security testing method of claim 13, wherein the time period between said executing the first test and said executing the second test can be negligible.

15. (Canceled)

16. (Currently Amended) The network security testing method of claim ~~15~~ 13, wherein said ~~receiving system environment~~ network security vulnerability information comprises ~~receiving~~ information regarding network connectivity from the first tester to the network system under test.

17. (Canceled)

18 (Previously Presented) The network security testing method of claim 17, wherein said receiving network security vulnerability information comprises receiving connection information relating to an IP address used in said executing the first test.

19. (Currently Amended) The network security testing method of claim ~~15~~ 13, further comprising determining whether the second test will be executed by the first tester or by a second tester based ~~at least partially upon the system environment information~~ upon the network security vulnerability information from the first test, before said executing the second test.

20. (Currently Amended) The network security testing method of claim ~~15~~ 13, further comprising selecting the second test from a plurality of tests based at least partially upon the ~~system environment~~ network security vulnerability information.

21. (Currently Amended) The network security testing method of claim 13, further comprising:
determining whether all possible network security vulnerability information regarding the system under test has been received in light of the plurality of tests; and
5 executing additional tests until all possible network security vulnerability information regarding the system under test has been received in light of the plurality of tests.

22. (Canceled)

23. (Currently Amended) The network security testing method of claim 19, further comprising selecting the second test from a plurality of tests based at least partially upon the ~~system environment~~ network security vulnerability information.

24. (Canceled)

25. (Currently Amended) A computer program product for network security testing stored in a computer-readable medium, comprising:

a) instructions for executing a first test by a first tester to test for network security vulnerabilities of a network system under test, wherein the first test is targeted at a network system under test, and wherein the first tester is communicably coupled to the network system under test;

b) instructions for receiving first information from the first test about the system under test, after executing the first test, the first information comprising network security vulnerability information;

c) instructions for executing a second test to test for the network security vulnerabilities of the network system under test after said receiving first information, wherein the second test is more specific specifically configured to adapt to the security obstacles of the network system under test detected based on information gained from the first test and obtain second information from ~~to~~ the network system under test based on the first information, the second information comprising additional network security vulnerability information more specific to the network system under test than the first information;

d) instructions for receiving the second information from the second test about the network system under test, after executing the second test;

e) instructions for repeating steps a)-d) a plurality of times until ~~all~~ relevant information about the system under test has been collected; and

f) instructions for wherein ~~the second~~ the network security vulnerability information obtained from each subsequent test is more specific to the system under test based on ~~the first~~ the network security vulnerability information provided by each previous test.

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26. (Original) The computer program product of claim 25, wherein the time period between executing the first test and executing the second test can be negligible.

27. (Canceled)

28. (Currently Amended) The computer program product of claim ~~27~~ 25, wherein said ~~receiving system environment~~ network security vulnerability information comprises ~~receiving~~ information regarding network connectivity from the first tester to the network system under test.

29. (Canceled)

30. (Currently Amended) The computer program product of claim ~~29~~ 25, wherein receiving ~~security obstacle~~ network security vulnerability information comprises receiving session establishability information relating to an IP address used in executing the first test.

31. (Currently Amended) The computer program product of claim ~~27~~ 25, further comprising instructions for determining whether the second test will be executed by the first tester or by a second tester based ~~at least partially upon the system environment information upon the network security vulnerability information from the first test~~, before said executing the second test.

32. (Currently Amended) The computer program product of claim ~~27~~ 25, further comprising instructions for selecting the second test from a plurality of tests based at least partially upon the ~~system environment~~ network security vulnerability information.

33. (Currently Amended) The computer program product of claim 25, further comprising:
instructions for determining whether all possible network security vulnerability information regarding the system under test has been received in light of the plurality of tests; and
instructions for executing additional tests until all possible network security vulnerability information regarding the system under test has been received in light of the plurality of tests.

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34. (Canceled)

35. (Currently Amended) The computer program product of claim 31, further comprising instructions for selecting the second test from a plurality of tests based at least partially upon the ~~system environment~~ network security vulnerability information.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

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53. (Canceled)

54. (Canceled)

55. (Canceled)

56. (Canceled)

57. (Canceled)

58. (Currently Amended) A network security testing apparatus comprising:
a plurality of testers for testing for network security vulnerabilities of a network system
under test to obtain network security vulnerability information;

5 wherein each of said plurality of testers is adapted to communicably couple to a network
system under test;

wherein a test of the network system under test is performed by a selected tester of said
plurality of testers, said selection of said selected tester to adapt to detected security obstacles of the

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network system under test based on information gained from a previous test to obtain more specific network security vulnerability information from the network system under test;

wherein said plurality of testers has a load balance characteristic describing a degree of balance of loads of testers of said plurality of testers; and

5 wherein the selected tester is selected from said plurality of testers based ~~at least partially~~ additionally on optimizing the load balance characteristic.

59. (Canceled)

60. (Canceled)

61. (Canceled)

62. (Original) The network security testing apparatus of claim 58,
wherein each tester of said plurality of testers has at least one quality of communicable coupling to the system under test; and

5 wherein the selected tester is selected from said plurality of testers based at least partially on the selected tester's quality of communicable coupling.

63. (Original) The network security testing apparatus of claim 62, wherein the quality of communicable coupling includes:

cost per bit;

absolute speed; and

5 geographical proximity of the selected tester to the system under test.

64. (Currently Amended) A network security testing method comprising:
selecting a selected tester from a plurality of testers for testing for network security vulnerabilities of a network system under test to obtain network security vulnerability information, said selection of said selected tester to adapt to security obstacles of the network system under test detected

5 based on information gained from a previous test to obtain more specific network security vulnerability information from network system under test;

executing a test by the selected tester, wherein the test is targeted at a the network system under test, and wherein the selected tester is communicably coupled to the network system under test;

10 wherein the plurality of testers has a load balance characteristic describing a degree of balance of loads of testers of the plurality of testers; and

wherein said selecting a selected tester from a plurality of testers is further based at least partially on optimizing the load balance characteristic.

65. (Canceled)

66. (Canceled)

67. (Canceled)

68. (Currently Amended) The network security testing method of claim 64, wherein each tester of the plurality of testers has at least one quality of communicable coupling to the network system under test; and

5 wherein said selecting a selected tester from a plurality of testers is further based at least partially on the selected tester's quality of communicable coupling.

69. (Previously Presented) The network security testing method of claim 68, wherein the quality of communicable coupling includes:

cost per bit;

absolute speed; and

5 geographical proximity of the selected tester to the system under test.

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70. (Currently Amended) A computer program product for network security testing stored in a computer-readable medium, comprising:

instructions for selecting a selected tester from a plurality of testers for testing for network security vulnerabilities of a network system under test to obtain network security vulnerability information, said selection of said selected tester to adapt to security obstacles of the network system under test detected based on information gained from a previous test to obtain more specific network security vulnerability information from network system under test;

instructions for executing a test by the selected tester, wherein the test is targeted at a system under test, and wherein the selected tester is communicably coupled to the network system under test;

wherein the plurality of testers has a load balance characteristic describing a degree of balance of loads of testers of the plurality of testers; and

wherein the selecting a selected tester from a plurality of testers is further based at least partially on optimizing the load balance characteristic.

71. (Canceled)

72. (Canceled)

73. (Canceled)

74. (Previously Presented) The computer program product of claim 70, wherein each tester of the plurality of testers has at least one quality of communicable coupling to the system under test; and

wherein the selecting a selected tester from a plurality of testers is further based at least partially on the selected tester's quality of communicable coupling.

75. (Previously Presented) The computer program product of claim 74, wherein the quality of communicable coupling includes:

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cost per bit;

absolute speed; and

5 geographical proximity of the selected tester to the system under test.

76. (Currently Amended) A network security testing apparatus comprising:

a first tester that is adapted to communicably couple to a network system under test to perform network security vulnerability testing, wherein said first tester is adapted to perform a test on the network system under test to obtain network security vulnerability information on the network system under test;

5 wherein said first tester is adapted to make a first attempt to communicably couple to the network system under test before executing the test to obtain network security vulnerability information;

wherein said first tester is adapted to make a second attempt to communicably couple to the system under test after executing the test to obtain network security vulnerability information ; and

10 wherein the combination of success of the first attempt and failure of the second attempt are interpreted as detection of the test by the network system under test.

77. (Canceled)

78. (Canceled)

79. (Canceled)

80. (Currently Amended) A network security testing method comprising:

5 attempting a first communicable coupling by a first tester for performing network security vulnerability testing to a network system under test;

executing a test to obtain network security vulnerability information by the first tester, wherein the test is targeted at the network system under test;

attempting a second communicable coupling by the first tester to the network system under test after executing the test to obtain network security vulnerability information; and

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interpreting the combination success of the first communicable coupling and failure of the second communicable coupling as detection of the test by the network system under test.

81. (Original) The network security testing method of claim 80, further comprising receiving security obstacle information of the system under test, responsively to said executing the test.

82. (Original) The network security testing method of claim 80, further comprising:
attempting a third communicable coupling to the system under test;
wherein said attempting a first communicable coupling is made using a first originating IP address;

5 wherein said attempting a second communicable coupling is made using a second originating IP address that is essentially the same as the first originating IP address;

wherein said attempting a third communicable coupling is made using a third originating IP address that is different from the second originating IP address;

10 wherein the combination of success of said attempting a first communicable coupling, failure of said attempting a second communicable coupling, and success of said attempting a third communicable coupling is interpreted as a possibility including the detection; and

wherein the combination of success of said attempting a first communicable coupling, failure of said attempting a second communicable coupling, and failure of said attempting a third communicable coupling is interpreted as a possibility including:

15 a network connectivity problem between the first tester and the system under test; and the detection.

83. (Original) The network security testing method of claim 80, further comprising:
attempting a third communicable coupling by a second tester to the system under test;
wherein the combination of success of said attempting a first communicable coupling, failure of said attempting a second communicable coupling, and success of said attempting a
5 third communicable coupling is interpreted as a possibility including the detection; and
wherein the combination of success of said attempting a first communicable coupling,

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failure of said attempting a second communicable coupling, and failure of said attempting a third communicable coupling is interpreted as a possibility including a network connectivity problem between the first tester and the system under test.

84. (Currently Amended) A computer program product for network security testing stored in a computer-readable medium, comprising:

instructions for attempting a first communicable coupling by a first tester for performing network security vulnerability testing to a network system under test;

5 instructions for executing a test to obtain network security vulnerability information by the first tester, wherein the test is targeted at the network system under test;

instructions for attempting a second communicable coupling by the first tester to the network system under test after executing the test to obtain network security vulnerability information;

and

10 instructions for interpreting the combination success of the first communicable coupling and failure of the second communicable coupling as detection of the test by the network system under test.

85. (Canceled)

86. (Original) The computer program product of claim 84, further comprising:

instructions for attempting a third communicable coupling to the system under test; wherein the attempting a first communicable coupling is made using a first originating IP address;

5 wherein the attempting a second communicable coupling is made using a second originating IP address that is essentially the same as the first originating IP address;

wherein the attempting a third communicable coupling is made using a third originating IP address that is different from the second originating IP address;

10 wherein the combination of success of the attempting a first communicable coupling, failure of the attempting a second communicable coupling, and success of the attempting a third

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communicable coupling is interpreted as a possibility including the detection; and

wherein the combination of success of the attempting a first communicable coupling, failure of the attempting a second communicable coupling, and failure of the attempting a third communicable coupling is interpreted as a possibility including:

15 a network connectivity problem between the first tester and the system under test; and the detection.

87. (Original) The computer program product of claim 84, further comprising:
instructions for attempting a third communicable coupling by a second tester to the system under test;

5 wherein the combination of success of said attempting a first communicable coupling, failure of said attempting a second communicable coupling, and success of said attempting a third communicable coupling is interpreted as a possibility including the detection; and

wherein the combination of success of said attempting a first communicable coupling, failure of said attempting a second communicable coupling, and failure of said attempting a third communicable coupling is interpreted as a possibility including a network connectivity problem
10 between the first tester and the system under test.

88. (Currently Amended) A network security testing apparatus comprising:

a tester communicably coupled to a system under test for testing for network security vulnerabilities of a network system under test;

5 a test tool within the tester for performing a test to obtain specific network security vulnerability information for the network system under test, said test tool selectable responsive to adapt to the security obstacles of the network system under test detected based on information gained from a previous received information on network security vulnerability information;

10 an application programming interface (API) adapted to interface between said tester and said test tool, said API further including an API stub enabling said test tool to be executed by said tester even if the outputs of said tester do not directly correspond to the inputs of said test tool, and such that said test tool may be executed by said tester even if the inputs of said tester do not directly correspond

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to the outputs of said test tool, said API further including a common API for interfacing between the test tool and instructions provided to the test tool; and

wherein said tester is adapted to test the system under test by execution of said test tool.

89. (Original) A network security testing method comprising:

adapting an application programming interface (API) to interface between a tester and a test tool, such that the test tool may be executed by the tester even if the outputs of the tester do not directly correspond to the inputs of the test tool, and such that the test tool may be executed
5 by the tester even if the inputs of the tester do not directly correspond to the outputs of the test tool;

executing the test tool by the tester;

wherein the test tool is targeted at a system under test; and

wherein the tester is communicably coupled to the system under test.

90. (Original) A computer program product for network security testing stored in a computer-readable medium, comprising:

instructions for adapting an application programming interface (API) to interface between a tester and a test tool, such that the test tool may be executed by the tester even if the outputs of the
5 tester do not directly correspond to the inputs of the test tool, and such that the test tool may be executed by the tester even if the inputs of the tester do not directly correspond to the outputs of the test tool;

instructions for executing the test tool by the tester;

wherein the test tool is targeted at a system under test; and

wherein the tester is communicably coupled to the system under test.
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91. (Canceled)

92. (Canceled)

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93. (Canceled)

94. (Canceled)

95. (Canceled)

96. (Canceled)

97. (Canceled)

98. (Canceled)

99. (Canceled)

100. (Canceled)

101. (Canceled)

102. (Canceled)

103. (Previously Presented) A network security testing apparatus comprising:
a plurality of testers;
wherein each of said plurality of testers is adapted to communicably couple to a system
under test;

5 wherein each tester of said plurality of testers has at least one quality of communicable
coupling to the system under test, the at least one quality of communicable coupling including cost per
bit, absolute speed, and geographical proximity of the selected tester to the system under test;

 wherein a test of the system under test is performed by a selected tester of said plurality
of testers, the selected tester being selected from said plurality of testers based at least partially upon

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10 said customer profile; and

wherein the selected tester is selected from said plurality of testers based at least partially on the selected tester's quality of communicable coupling.

104. (Previously Presented) A network security testing method comprising:

selecting a selected tester from a plurality of testers based at least partially on a tester's quality of communicable coupling, the quality of communicable coupling including at least one of cost per bit, absolute speed, and geographical proximity of the selected tester to the system under test; and

5 executing a test by the selected tester, wherein the test is targeted at a system under test, and wherein the selected tester is communicably coupled to the system under test.

105. (Previously Presented) A computer program product for network security testing stored in a computer readable medium, comprising:

instructions for selecting a selected tester from a plurality of testers based at least partially on a tester's quality of communicable coupling, the quality of communicable coupling including
5 at least one of cost per bit, absolute speed, and geographical proximity of the selected tester to the system under test; and

instructions for executing a test by the selected tester, wherein the test is targeted at a system under test, wherein the selected tester is communicably coupled to the system under test.

106. (Canceled)

107. (Canceled)

108. (Canceled)

109. (Canceled)

110. (Canceled)

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111. (Canceled)